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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,448	04/02/2001	Richard D. Cramer	3017-40	1816

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EXAMINER

DOUGHERTY, ANTHONY T

ART UNIT PAPER NUMBER

2863

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,448

Applicant(s)

CRAMER ET AL.

Examiner

Anthony T. Dougherty

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,240,374 to Cramer et al.

The applied reference has a common inventor/assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

With regard to independent method claim 1, Cramer et al. discloses a method to search a heterogenous compound database for molecules which are likely to have the same biological activity as a known query molecule (see Abstract) by defining fragments of a query molecule (see column 74 line 45 through line 46), defining fragments of a database molecules (see column 74 line 42 through line 44) according to a defined set of rules (see column 74 line 61 through column 75 line 3), generating shape descriptors (see column 74 line 45 through line 48), and

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using the shape descriptors to identify a database molecule with a shape similar to the query molecule (see column 75 line 5 through line 10).

Allowable Subject Matter

3. Claim 2 allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 2 is the inclusion of the method steps being searching a heterogenous compound database for molecules which are likely to have the same biological activity as a known query molecule by fragmenting a database compound according to a defined set of rules, topomerically aligning the database molecule fragments to generate a topomeric conformation, generating the interaction energies between a probe and the atoms in the topomerically aligned database fragments at all intersection points in a three dimensional grid surrounding the aligned query fragments, determining the similarity between query and database fragments by the root sum square differences in the field values and identifying the molecule in the database most similar to the query molecule as that molecule having the smallest field value difference in its fragments. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Response to Arguments

5. Applicant's arguments filed October 9, 2003 have been fully considered but they are not persuasive.

With regard to applicant's arguments beginning on page paragraph 2 and continuing through page 4 paragraph 2 it is clear from the specification that U.S. Patent No. 6,240,374 to Cramer et al. teaches defining fragments of a database molecule (see column 74 line 42 through line 44 & column 58 line 12 through line 15). By its very nature the database consists of definitions of fragments of actual molecules, the database does contain only fragments as items but these items are related in the database in a way that defines the molecules these fragments make up and therefore reads upon the claim language "defining fragments of ... a database molecules" since a database molecule is present as a specific relationship between the singular database entries of fragments instead of as a singular database entry as a molecule (see column 58 line 18 through line 21).

With regard to applicant's arguments beginning on page 4 paragraph 3 and continuing through page 6 refer to MPEP 2111.01 [R-1] specifically:

THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING"

UNLESS THEY ARE DEFINED IN THE SPECIFICATION

While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning

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unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir.1989). ... It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. In re Vogel, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). ...

The term "heterogenous compound database" in claim 1 is used by the claim to mean "databases of commercially available compounds" (see applicants arguments in Paper no. 11 page 6 paragraph 2), while the accepted meaning is not limited to databases of commercially available compounds but can include a database of molecule fragments, the fragments composed of more than a single atom and representing heterogenous compounds in themselves, therefore the claim language must be treated to include this reading since the specification does not clearly redefine the term "heterogenous compound database".

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

International Application Publication WO 99/44055 to Nicholls because it teaches searching a database of existing molecules for pharmaceutical drug discovery and design by fragmenting query and database molecules, generating shape descriptions for query and database molecules, and using the shape descriptions and field strengths to identify the database molecule which has a shape and biological activity similar to the query molecule.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (703) 305-4020. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



atd



John Barlow
Supervisory Patent Examiner
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